



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,970	10/27/2000	Joseph C. Liberti	APP 1206-US	8306
9941	7590	07/28/2004	EXAMINER	
TELCORDIA TECHNOLOGIES, INC. ONE TELCORDIA DRIVE 5G116 PISCATAWAY, NJ 08854-4157				LEE, JOHN J
ART UNIT		PAPER NUMBER		
		2684		

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/698,970	LIBERTI ET AL.
	Examiner	Art Unit
	JOHN J LEE	2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 05 May 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 17 is/are allowed.
- 6) Claim(s) 1-16 and 18-24 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Response to Arguments/Amendment

1. Applicant's arguments/amendments received on May 5, 2004 have been carefully considered but they are not persuasive because the teaching of all the cited reference reads on all the claims as set forth in the previous rejection. Therefore, the finality of this Office Action is deemed proper.

Contrary to the assertions at pages 8 - 13 of the Arguments, claims 1, 13, 18, 19, and 24 are not patentable.

The claim does not require or limit the claimed limitation is interpreted as a certain function or a special detail.

Re claims 1, 13, 18, 19, and 24: In response to applicant's arguments, the recitation "establishing reliable communications between two points in the mobile wireless network, wherein said first point comprises a first mobile wireless node, said second point comprises a plurality of mobile wireless nodes, and said first node cannot directly reliably communicate with any one of said plurality of nodes at said second point" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., reliable communications through wireless nodes forming groups in order to receive transmitted signals and establishing reliable communications by wireless nodes dynamically forming groups to collectively receive signals under the control of controlling node) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Re claims 1, 13, and 18: Applicant argues that the combination of Ishii et al. (US Patent number 6,434,132) and Monch et al. (US Patent number 6,304,745) do not teach the claimed invention "forming a receive group, in reaction to receiving said probe, consisting of at least some of said plurality of nodes and choosing a controlling node from the receive group, and subsequent signals transmitted by the first node". However, The Examiner respectfully disagrees with Applicant's assertion that the Ishii and Monch do not teach the claimed invention. Contrary to Applicant's assertion, the Examiner is of the opinion that Ishii teaches forming receive group (2a, 2b, 2c, 2d, 2e, 2h in Fig. 1) receives the control packet (claim limitation does not require that the probe is a special signal with function, therefore the probe can be control packet) and Fig. 1 and 2 teaches consisting of some of the plurality nodes (mobile hosts (2a, 2b, 2c, 2d)) and based on the created mobile hosts (wireless nodes) and the received control packet's signal quality (measuring interference for received control packet) (see Fig. 1, 2 and column 5, lines 10 – 42) and Fig. 5 teaches choosing a controlling nodes (selecting a new channel (new

controlling node) which is free interference (one of the mobile hosts (nodes) of each subnetwork serves as a parent host (controlling node) for the other mobile hosts) from the receive group and receiving subsequent signals (new controlling node serves/transmits the control information channel (see Fig. 1, 5 and column 2, lines 51 – column 3, lines 40)), regarding the claimed limitation. Moreover, Monch teaches creating the neighbor list for broadcasting and establishing a radio link for achieving shortest possible radio link (see Fig. 1 and column 1, lines 60 – column 2, lines 25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Ishii system as taught by Monch, provide the motivation to enhance the communication reliability in mobile communication system.

Re claim 19: Applicant argues that the combination of Ishii and Monch fail to teach or suggest the claimed limitation “forwarding by each member of the group to the controlling subset of that group all messages received from said originating subset destined for said second point”. However, The Examiner respectfully disagrees with Applicant’s assertion that the combination of Ishii and Monch do not teach the claimed. Contrary to Applicant’s assertion, the Examiner is of the opinion that Ishii teaches if control packet is received by other mobile hosts, controlling host proceeds to examine the packet information including destination address, source address, command, host type, and parent address and than determining if control packet is a broadcast packet, sends the packet to another subnetwork (see column 3, lines 12 – 65 and Fig. 2, 4), regarding the claimed limitation.

Applicant's attention is directed to the rejection below for the reasons as to why this limitation is not patentable.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. **Claims 1-16 and 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (US Patent number 6,434,132) in view of Monch et al. (US Patent number 6,304,745).**

Regarding **claim 1**, Ishii discloses that a method for establishing reliable communications between two points in a mobile wireless network (Fig. 1), wherein said first point comprises a first wireless node (1a in Fig. 1), said second point comprises a plurality of mobile wireless nodes (2a, 2b in Fig. 1), and said first node cannot directly reliable communicate with any one of said plurality of nodes at said second point (Fig. 1 and column 2, lines 39 – column 3, lines 5). Ishii teaches that transmitting a probe (control packet) from said first node (1a in Fig. 1) to said plurality of nodes (2a, 2b in Fig. 1) (Fig. 1, 4, abstract, and column 3, lines 41 – 65 where teaches parent node broadcasts the control packet to subnetwork (mobile nodes). Ishii teaches that forming a receive group (2a, 2b, 2c, 2d in Fig. 1), in reaction to receiving said probe (control packet), consisting of at least some of said plurality of nodes and based on the created

mobile hosts and the received probe's signal quality (measure for interference) (column 4, lines 10 – 53 and Fig. 1, 4 where teaches the subnetwork (mobile nodes) received the control packet from the parent node and requests a channel switchover to parent host as the interference of received signal has occurred). Ishii teaches that choosing a controlling node (2e, 2h in Fig. 1) from said receive group (Fig. 1) (Fig. 1, 5 and column 5, lines 10 – 42 where teaches the mobile host, which is free interference or noiseless node, can control the signal for broadcasting to another subnetwork (mobile nodes)). Ishii teaches that receiving at said receive group, under the control of said controlling node, subsequent signals transmitted by said first node (Fig. 1, 5 and column 5, lines 10 – 42 where teaches best received signal quality node can control to broadcast the control packet (transmitted by parent node) to another subnetwork (mobile nodes)).

Ishii does not specifically disclose the limitation "creating and adding a neighbor list each of said plurality of nodes". However, Monch discloses the limitation "creating and adding a neighbor list each of said plurality of nodes" (Fig. 1, 3 and column 1, lines 60 – column 2, lines 25 where teaches called radio station created for calling radio station containing information on radio links to neighboring radio stations). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Ishii system as taught by Monch. Doing so would enhance the wireless communication reliability in mobile communication system.

Regarding **claim 2**, Ishii discloses that the receive group disbands once communication with said first node are complete (column 4, lines 10 – 53 and Fig. 4).

Regarding **claim 3**, Ishii discloses that the controlling node and members of said receive group are not predetermined (because the receive group is mobile nodes, can move anywhere)(column 2, lines 51 – column 3, lines 3 and Fig. 1).

Regarding **claim 4**, Ishii and Monch disclose all the limitation, as discussed in claim 1. Furthermore, Ishii further discloses that probing periodically by each of said plurality of nodes to determine nearby nodes (abstract, column 1, lines 46 – 64, and Fig. 1). Ishii teaches that negotiating transmission parameters with nearby nodes to establish reliable communications (column 4, lines 10 – 53 and Fig. 1, 4).

Regarding **claim 5**, Ishii and Monch disclose all the limitation, as discussed in claim 1. Ishii does not specifically disclose the limitation “transferring a representation of said subsequent signals received by each member of receiving group to said controlling node that combines said representations of said subsequent signals”. However, Monch discloses the limitation “transferring a representation (Fig. 3a) of said subsequent signals received by each member of receiving group to said controlling node (2 in Fig. 6) that combines said representations of said subsequent signals (Fig. 3a)” (Fig. 1, 3 and column 4, lines 53 – column 5, lines 18 where teaches each receiver transmits signal strength and node identification to create a table for reliable communication). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Ishii system as taught by Monch. Doing so would enhance the wireless communication reliability in mobile communication system.

Regarding **claim 6**, Ishii discloses that the step of combining is performed through incoherent signal combining (abstract, column 1, lines 46 – 64, and Fig. 1).

Regarding **claim 7**, Ishii discloses that the step of combining is performed through coherent signal combining (abstract, column 1, lines 46 – 64, and Fig. 1).

Regarding **claim 8**, Ishii discloses that the coherent signal combining is based on antenna array system (column 1, lines 46 – column 3, lines 11 and Fig. 1).

Regarding **claim 9**, Ishii discloses that transmitting second subsequent signals from said second point to said first node wherein said second subsequent signals originate from said controlling node (column 3, lines 41 – column 4, lines 53 and Fig. 4).

Regarding **claim 10**, Ishii and Monch disclose all the limitation, as discussed in claims 5 and 9. Furthermore, Ishii further discloses that transferring representations of said second subsequent signals from said controlling node to each member of said receive group (Fig. 1 and column 2, lines 51 – column 3, lines 32). Ishii teaches that combining said representations of said second subsequent signals at said first node thereby establishing a reliable signal (column 3, lines 41 – column 4, lines 53 and Fig. 4).

Regarding **claim 11**, Ishii and Monch disclose all the limitation, as discussed in claims 5 and 7.

Regarding **claim 12**, Ishii and Monch disclose all the limitation, as discussed in claims 5 and 6.

Regarding **claim 13**, Ishii and Monch disclose all the limitation, as discussed in claims 1 and 9.

Regarding **claim 14**, Ishii and Monch disclose all the limitation, as discussed in claims 5 and 10.

Regarding **claim 15**, Ishii and Monch disclose all the limitation, as discussed in claims 1 and 9.

Regarding **claim 16**, Ishii discloses that communication between said first and second point is a signal hop (Fig. 1A) within multi-hop network (Fig. 1B) (Fig. 1 and column 2, lines 39 – column 3, lines 11).

Regarding **claim 18**, Ishii and Monch disclose all the limitation, as discussed in claims 1 and 9. Furthermore, Ishii further discloses that collectively receiving at said receive group, under the control of said second node, first subsequent signals transmitted by said first node (column 5, lines 10 – 42 and Fig. 1, 5 where teaches receiving group (2a, 2b, 2c, 2d) with including controlling parent host in the receiving group (2e, 2h) receives control packet from other parent host). Ishii teaches that collectively transmitting from said receive group, under the control of said second node, second subsequent signals destined for said first node (column 3, lines 41 – column 4, lines 53 and Fig. 4 where teaches receiving group (2a, 2b, 2c, 2d) with including controlling parent host in the receiving group (2e, 2h) transmits the interference condition signal to first parent host (1a, 1b)).

Regarding **claim 19**, Ishii and Monch disclose all the limitation, as discussed in claims 1 and 9. Furthermore, Ishii further discloses that forwarding by each member of group to the controlling subset of that group all messages received from said originating subset destined said second point (column 3, lines 41 – column 4, lines 53 and Fig. 4).

Regarding **claim 20**, Ishii and Monch disclose all the limitation, as discussed in claims 1 and 4.

Regarding **claim 21**, Ishii and Monch disclose all the limitation, as discussed in claims 1 and 13.

Regarding **claim 22**, Ishii and Monch disclose all the limitation, as discussed in claims 1 and 19.

Regarding **claim 23**, Ishii and Monch disclose all the limitation, as discussed in claims 1 and 19.

Regarding **claim 24**, Ishii and Monch disclose all the limitation, as discussed in claims 1 and 19.

Allowable Subject Matter

4. Claim 17 is allowed.

Claim 17 is allowable over the prior art of record because a search does not detect the combined claimed elements as set forth in the claim 17.

As recited in independent claim 17, none of the prior art of record teaches or fairly suggests that first dynamic group consisting of a first controlling node reliably passes data to the second dynamic group consisting of second controlling node comprising of step of passing a first representation of said data from said first controlling node to each member of said first dynamic group, transmitting the first representations of the data from each member of the first dynamic group to the second point, receiving the transmitted data at each member of the second dynamic group, passing second representations of said data received by each member of said second dynamic group to the second controlling node, and combining the second representations at the second

controlling node to create a reliable signal, and together with combination of other element as set forth in the claim 17. Therefore, claim 17 is allowable over the prior art of records.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cheung et al. (US Patent number 5,901,362) discloses Connecting a Wireless LAN to a Wired LAN.

Haartsen (US Patent number 6,026,297) discloses Contemporaneous Connectivity to Multiple Piconets.

Information regarding...Patent Application Information Retrieval (PAIR) system...
at 866-217-9197 (toll-free)."

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

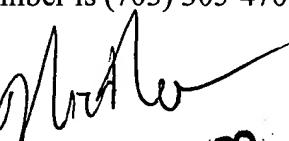
Or:

(703) 308-6606 (for informal or draft communications, please label
"PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal
Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to **John J. Lee** whose telephone number is **(703) 306-5936**.
He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00
pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Nay
Aung Maung**, can be reached on **(703) 308-7745**. Any inquiry of a general nature or
relating to the status of this application should be directed to the Group receptionist
whose telephone number is **(703) 305-4700**.

J.L
July 12, 2004


NICK CORSARO
PATENT EXAMINER

John J Lee